APPENDIX A

Permit Application Forms

STATE OF NEW HAMPSHIRE
Department of Environmental Services
Air Resources Division
P.O. Box 95
Concord, NH 03302-0095
Telephone: 603-271-1370

Form ARD-1

General Information for All Permit Applications

I. FACILITY INFORMATION - *Complete the following*:

A. Type of Application: ☒ New ☐ Renewal ☐ Modification

B. Physical Location:

Concord Expansion Compressor Station
Facility Name

Mammoth Road
Street

Pelham NH 03076
Town/City State Zip Code

C. Mailing Address:

1001 Louisiana Street
Street/P.O. Box

Houston TX 77002
Town/City State Zip Code

(713) 420-7931
Telephone Number

D. USGS Coordinates:

UTM	
Easting:	307131
Northing:	4739290

or

Latitude/Longitude			
N Latitude:	Deg 42	Min 47	Sec 1.735
W Longitude:	Deg 71	Min 21	Sec 28.367

E. Owner:

Tennessee Gas Pipeline Company
Company

1001 Louisiana Street
Street/P.O. Box

Houston TX 77002
Town/City State Zip Code

(713) 420-7931
Telephone Number

F. Parent Corporation:

El Paso Corporation
Company

N/A
Contact Person/Title

1001 Louisiana Street
Street/P.O. Box

Houston TX 77002
Town/City: State Zip Code

(713) 420-7931
Telephone Number

G. Contact Information

1. General/Technical Contact:

Trinh Tran
Contact Person

Principal Eng.Eastern Pipelines Env.
Title

1001 Louisiana Street
Address

Houston TX 77002
Town/City State Zip Code

(713) 420-7931
Telephone Number

Trinh.M.Tran@ElPaso.com
E-mail Address

2. Application Preparation:

Tetra Tech EC, Inc.
Company

Tricia Beazley
Contact Person

133 Federal Street, 6th Floor
Address

Boston MA 02110
Town/City State Zip Code

(617)457-8243
Telephone Number

tricia.beazley@tteci.com
E-mail Address

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3. Legal Contact:

Scott Miller
Contact Person

Senior Counsel
Title

1001 Louisiana Street
Address

Houston TX 77002
Town/City State Zip Code

(713) 420-2336
Telephone Number

E-mail Address

4. Invoicing Contact:

Trinh Tran
Contact Person

Principal Eng.Eastern Pipelines Env.
Title

1001 Louisiana Street
Address

Houston TX 77002
Town/City State Zip Code

(713) 420-7931
Telephone Number

Trinh.M.Tran@ElPaso.com
E-mail Address

H. Major Activity or Product Descriptions - *List all activities performed at this facility and provide SIC code(s):*

Description of Activity or Product	SIC Code
Natural Gas Compressor Station	4922

I. Other Sources or Devices - *List sources or devices at the facility (other than those that are the subject of this application) that are permitted pursuant to Env-A 600:*

Source or Device	Permit #	Expiration Date
N/A		

II. Total Facility Emissions Data:

Pollutant	CAS #	Actual (lb/hr)	Potential (lb/hr)	Actual (ton/yr)	Potential (ton/yr)
NOx (as NO2)	10102-44-0	Unknown	5.66	Unknown	24.81
CO	630-08-0	Unknown	7.63	Unknown	33.41
VOC	N/A	Unknown	2.02	Unknown	8.85
SO2	7446-09-5	Unknown	0.20	Unknown	0.87
PM	N/A	Unknown	0.39	Unknown	1.72

Note: For Regulated Toxic Air Pollutants list name and Chemical Abstract Service Number (CAS #) – *use additional sheets if necessary.*

Form ARD-1

III. Support Data *The following data must be submitted with this application:*

☒ A copy of all calculations used in determining emissions;
☒ A copy of a USGS map section with the site location clearly indicated; and
☒ A to-scale site plan of the facility showing:
1. the locations of all emission points;
2. the dimensions of all buildings, including roof heights; and
3. the facility's property boundary.

IV. Certification (To be completed by a responsible official only):

I am authorized to make this submission on behalf of the affected source or affected units for which this submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the information submitted in this document and all of its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.

Print/Type Name: William (Bill) G. Cope Title: VP Operations

Signed: William G Cope Date: 1/25/08

STATE OF NEW HAMPSHIRE
Department of Environmental Services
Air Resources Division

Form ARD-2

Information Required for Permits for Fuel Burning Devices

I. EQUIPMENT INFORMATION – *Complete a separate form for each device.*

Device Description: Emergency Generator

Date Construction Commenced: 2008 **Device Start-Up Date:** October 2009

A. Boiler ☒ Not Applicable

Boiler Manufacturer

Boiler Model Number

Boiler Serial Number

Gross Heat Input Nameplate Rating (MMBtu/hr)

Burner Manufacturer

Burner Model Number

Burner Serial Number

Potential Fuel Flow Rate ☐ gal/hr ☐ mmcf/hr ☐ ton/hr

1. Type of Burner:

a. Solid Fuel:
- ☐ Cyclone
- ☐ Pulverized (☐ wet ☐ dry)
- ☐ Spreader Stoker
- ☐ Underfeed Stoker
- ☐ Overfeed Stoker
- ☐ Hand-Fired
- ☐ Fly Ash Re-injection
- ☐ Other (specify): _____

b. Liquid Fuel:
- ☐ Pressure Gun
- ☐ Rotary Cup
- ☐ Steam Atomization
- ☐ Air Atomization
- ☐ Other (specify): _____

c. Gaseous Fuel:
- ☐ Natural Gas
- ☐ Propane
- ☐ Other (specify): _____

2. Combustion Type:
- ☐ Tangential Firing
- ☐ Opposite End Firing
- ☐ Limited Excess Firing
- ☐ Flue Gas Recirculation
- ☐ Staged Combustion
- ☐ Biased Firing
- ☐ One End Only Firing
- ☐ Other (specify): _____

B. Internal Combustion Engines/Combustion Turbines ☐ Not Applicable

TBD
Manufacturer

TBD
Model Number

TBD
Serial Number

TBD
Fuel Flow Rate ☐ gal/hr ☐ mmcf/hr

425
Engine Output Rating ☒ hp ☐ kW

Auxiliary power source
Reason for Engine Use

Form ARD-2

C. Stack Information

Is unit equipped with multiple stacks? ☐ Yes ☒ No *(if yes, provide data for each stack)*

Identify other devices on this stack: N/A

Is Section 123 of the Clean Air Act applicable? ☐ Yes ☒ No

Is stack monitoring used? ☐ Yes ☐ No

If yes, Describe: _____

Is stack capped or otherwise restricted? ☐ Yes ☒ No

If yes, Describe: _____

Stack exit orientation: ☒ Vertical ☐ Horizontal ☐ Downward

TBD
Stack ☐ Inside Diameter (ft) ☐ Exit Area (ft²)

TBD
Discharge height above ground level (ft)

TBD
Exhaust Flow (acfm)

TBD
Exhaust Velocity (ft/sec)

TBD
Exhaust Temperature (°F)

II. OPERATIONAL INFORMATION

A. Fuel Usage Information

1. Fuel Supplier:

Tennessee Gas Pipeline Company
Supplier's Name

1001 Louisiana Street
Street

Houston TX 77002
Town City State Zip Code

(713) 420-2600
Telephone Number

2. Fuel Additives:

N/A
Manufacturer's Name

Street

Town/City State Zip Code

Telephone Number

Identification of Additive

Consumption Rate (gallons per 1000 gallons of fuel)

3. Fuel Information *(List each fuel utilized by this device)*:

Type	% Sulfur	% Ash	% Moisture (solid fuels only)	Heat Rating (specify units)	Potential Heat Input (MMBtu/hr)	Actual Annual Usage (specify units)
nat gas	<0.001	N/A	N/A	Unknown	4.68*	Unknown

B. Hours of Operation

Hours per day: 24 Days per year: 20.8(based on 500 hours of operation per year)

Form ARD-2

III. POLLUTION CONTROL EQUIPMENT ☒ Not Applicable

A. Type of Equipment *Note: if process utilizes more than one control device, provide data for each device*

- ☐ baffled settling chamber
- ☐ long cone cyclone
- ☐ multiple cyclone (_____ inch diameter)
- ☐ electrostatic precipitator
- ☐ spray tower
- ☐ venturi scrubber
- ☐ afterburners (incineration)
- ☐ selective catalytic reduction
- ☐ reburn
- ☐ other (specify): _____
- ☐ wide bodied cyclone
- ☐ irrigated long cone cyclone
- ☐ carbon absorption
- ☐ irrigated electrostatic precipitator
- ☐ absorption tower
- ☐ baghouse
- ☐ packed tower/column
- ☐ selective non-catalytic reduction

B. Pollutant Input Information

Pollutant	Temperature (°F)	Actual (lb/hr)	Potential (lb/hr)	Actual (ton/yr)	Potential (ton/yr)

Method used to determine entering emissions:

☐ stack test ☐ vendor data ☐ emission factor ☐ material balance

☐ other (specify): _____

C. Operating Data

1. Capture Efficiency: _____% Verified by: ☐ test ☐ calculations
2. Control Efficiency: _____% Verified by: ☐ test ☐ calculations
3. Normal Operating Conditions *(supply the following data as applicable)*

Total gas volume through unit (acfm)	Temperature (°F)	Percent Carbon Dioxide (CO_2)
Voltage	Spark Rate	Milliamps
Pressure Drop (inches of water)	Liquid Recycle Rate (gallons per minute)	

Form ARD-2

IV. DEVICE EMISSIONS DATA:

Pollutant	Temperature (°F)	Actual (lb/hr)	Potential (lb/hr)	Actual (ton/yr)	Potential (ton/yr)
NOx (as NO2)	> 0	Unknown	0.11	Unknown	0.47
CO	> 0	Unknown	0.21	Unknown	0.94
VOC	> 0	Unknown	0.05	Unknown	0.23
SO2	> 0	Unknown	0.0002	Unknown	0.0007
PM	> 0	Unknown	0.003	Unknown	0.0117

Method used to determine exiting emissions:

☐ stack test ☐ vendor data ☒ emission factor ☐ material balance

☒ other (specify): NSPS EMERGENCY ENGINE EXHAUST EMISSION LIMITS

STATE OF NEW HAMPSHIRE
Department of Environmental Services
Air Resources Division

Form ARD-2

Information Required for Permits for Fuel Burning Devices

I. EQUIPMENT INFORMATION – *Complete a separate form for each device.*

Device Description: Compressor Turbine #1 (with SoLoNOx Combustion System)
Date Construction Commenced: 2008 **Device Start-Up Date:** October 2009

A. Boiler ☒ Not Applicable

Boiler Manufacturer _____ Boiler Model Number _____

Boiler Serial Number _____ Gross Heat Input Nameplate Rating (MMBtu/hr) _____

Burner Manufacturer _____ Burner Model Number _____ ☐ gal/hr ☐ mmcf/hr ☐ ton/hr

Burner Serial Number _____ Potential Fuel Flow Rate _____

1. Type of Burner:

a. Solid Fuel:
- ☐ Cyclone
- ☐ Pulverized (☐ wet ☐ dry)
- ☐ Spreader Stoker
- ☐ Underfeed Stoker
- ☐ Overfeed Stoker
- ☐ Hand-Fired
- ☐ Fly Ash Re-injection
- ☐ Other (specify): _____

b. Liquid Fuel:
- ☐ Pressure Gun
- ☐ Rotary Cup
- ☐ Steam Atomization
- ☐ Air Atomization
- ☐ Other (specify): _____

c. Gaseous Fuel:
- ☐ Natural Gas
- ☐ Propane
- ☐ Other (specify): _____

2. Combustion Type:
- ☐ Tangential Firing
- ☐ Opposite End Firing
- ☐ Limited Excess Firing
- ☐ Flue Gas Recirculation
- ☐ Staged Combustion
- ☐ Biased Firing
- ☐ One End Only Firing
- ☐ Other (specify): _____

B. Internal Combustion Engines/Combustion Turbines ☐ Not Applicable

Solar — Manufacturer
Centaur 50-6200LS — Model Number
Unknown — Serial Number
0.056 @ 40 deg. F — Fuel Flow Rate ☐ gal/hr ☒ mmcf/hr
6,346 @ 40 deg. F — Engine Output Rating ☒ hp ☐ kW
For use in NG Compressor Station — Reason for Engine Use

Form ARD-2

C. Stack Information

Is unit equipped with multiple stacks? ☐ Yes ☒ No *(if yes, provide data for each stack)*

Identify other devices on this stack: N/A

Is Section 123 of the Clean Air Act applicable? ☐ Yes ☒ No

Is stack monitoring used? ☐ Yes ☒ No

If yes, Describe: _____

Is stack capped or otherwise restricted? ☐ Yes ☒ No

If yes, Describe: _____

Stack exit orientation: ☒ Vertical ☐ Horizontal ☐ Downward

6.0
Stack ☒ Inside Diameter (ft) ☐ Exit Area (ft²)

55.0
Discharge height above ground level (ft)

88,588
Exhaust Flow (acfm)

52.22
Exhaust Velocity (ft/sec)

924
Exhaust Temperature (°F)

II. OPERATIONAL INFORMATION

A. Fuel Usage Information

1. Fuel Supplier:

Tennessee Gas Pipeline Company
Supplier's Name

1001 Louisiana Street
Street

Houston TX 77002
Town/City State Zip Code

(713) 420-2600
Telephone Number

2. Fuel Additives:

N/A
Manufacturer's Name

Street

Town/City State Zip Code

Telephone Number

Identification of Additive

Consumption Rate (gallons per 1000 gallons of fuel)

3. Fuel Information *(List each fuel utilized by this device)*:

Type	% Sulfur	% Ash	% Moisture (solid fuels only)	Heat Rating (specify units)	Potential Heat Input (MMBtu/hr)	Actual Annual Usage (specify units)
nat gas	<0.001	N/A	N/A	8141Btu/hp.hr	52.2*	Unknown

B. Hours of Operation

Hours per day: 24 Days per year: 365

Form ARD-2

III. POLLUTION CONTROL EQUIPMENT ☒ Not Applicable

A. Type of Equipment *Note: if process utilizes more than one control device, provide data for each device*

- ☐ baffled settling chamber
- ☐ long cone cyclone
- ☐ multiple cyclone (_____ inch diameter)
- ☐ electrostatic precipitator
- ☐ spray tower
- ☐ venturi scrubber
- ☐ afterburners (incineration)
- ☐ selective catalytic reduction
- ☐ reburn
- ☐ other (specify): _____
- ☐ wide bodied cyclone
- ☐ irrigated long cone cyclone
- ☐ carbon absorption
- ☐ irrigated electrostatic precipitator
- ☐ absorption tower
- ☐ baghouse
- ☐ packed tower/column
- ☐ selective non-catalytic reduction

B. Pollutant Input Information

Pollutant	Temperature (°F)	Actual (lb/hr)	Potential (lb/hr)	Actual (ton/yr)	Potential (ton/yr)

Method used to determine entering emissions:

☐ stack test ☐ vendor data ☐ emission factor ☐ material balance

☐ other (specify): _____

C. Operating Data

1. Capture Efficiency: _____% Verified by: ☐ test ☐ calculations
2. Control Efficiency: _____% Verified by: ☐ test ☐ calculations
3. Normal Operating Conditions *(supply the following data as applicable)*

Total gas volume through unit (acfm)	Temperature (°F)	Percent Carbon Dioxide (CO_2)
Voltage	Spark Rate	Milliamps
Pressure Drop (inches of water)	Liquid Recycle Rate (gallons per minute)	

Form ARD-2

IV. DEVICE EMISSIONS DATA:

Pollutant	Temperature (°F)	Actual (lb/hr)	Potential (lb/hr)	Actual (ton/yr)	Potential (ton/yr)
NOx (as NO2)	0	Unknown	5.46	Unknown	23.9
CO	0	Unknown	7.33	Unknown	32.1
VOC (as UHC)	0	Unknown	1.96	Unknown	8.6
SO2	0	Unknown	0.21	Unknown	0.9
PM	0	Unknown	0.40	Unknown	1.7

Method used to determine exiting emissions:

☐ stack test ☒ vendor data ☒ emission factor ☐ material balance

☐ other (specify): _____